JOB HAZARD ANALYSIS

Hazard Types (HT)

1. Toxic Chemic
2. Flammable Chemicals
3. Corrosive Chemicals
4. Environmental
5. Explosion (Chemical Reaction)
6. Explosion (Over pressurization)
7. Mechanical/Vibration
8. Electrical (Shock, Short Circuit)
9. Electrical (Fire)
10. Electrical (Static, ESD)
11. Electrical (Loss of Power)
12. Ergonomic (Overexertion)
13. Ergonomic (Human Error)
14. Vibration
15. Fall (Slips/Trips)
16 Fall (To a Different Level)
17. Excavation (Collapse)
18. Fire, Heat, Thermal, Cold
19. Noise
20. Radiation (Ionizing/Non-Ionizing)
21. Visibility
22. Weather
23. Caught (In, On, Between)
24. Struck (By, Against)
25. Driving
26. Confined Space
27. Biological (Pathogens, animals, etc.)
28. Fatigue
29. Other

Job Task: On-Scene Coordinators

Job Frequency/Duration:
60% of the year
1 -21 days

Tools Used:
Digital Camera
Laptop
GPS unit
Gear Bag

Chemicals Used:
None

CRITICAL TO SAFETY (CTS)

Risk Estimation Matrix

Probability of Occurrence of Harm	SEVERITY OF HARM			
	Catastrophic	Serious	Moderate	Minor
VERY LIKELY	Extreme	High	High	Medium
LIKELY	High	High	Medium	Low
UNLIKELY	Medium	Medium	Low	Negligible
REMOTE	Low	Low	Negligible	Negligible

* High = CTS tasks should receive engineering controls prior to assigning administrative or PPE controls.

Job Description: The OSC responds to releases of hazardous substances and petroleum products under CERCLA or OPA, respectively. The response may involve assessment, stabilization, and cleanup of the hazardous substance or petroleum product. The response can take place in any conceivable location, time, and weather condition. The Emergency Management Program (EMP) expects the OSC to be able to work safely in a hazardous environment with proper training on awareness and use of PPE. As stated in the PPE Program, EMP expects engineering and administrative controls will be considered before relying on PPE for protection.

Step #	Procedures (LOP Procedure Step)	Potential Hazards	HT	Check CTS	Required Safe Practice	PPE
1	Response to scene of accident	Ergonomics, Driving, Weather	13, 21, 22, 24, 25, 28	Medium	Careful lifting techniques, secure grip, packing at desk level or higher; Drive defensivly; do not text while driving	None
2	Assess the situation and determine if release needs to be secured and stabilized or is ready for cleanup. If clean-up is required, write a HASP prior to cleanup activities commensing. Perform cleanup activities.	Chemicals, heat/cold stress, fire, explosion, noise, slips/trips/falls, biological, electricity, radiation, confined space	1-29	Low – Extreme	Reference table below and PPE Hazard Assessment Form	
3	Demobilize	Ergonomics, Driving, Weather	13, 21, 22, 24, 25, 28	Medium	Careful lifting techniques, secure grip, unpacking at desk level or higher; Drive defensivly; do not text while driving	None

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HAZARDS – NOTE ALL POTENTIAL HAZARDS ASSOCIATED WITH THE JOB (CHECK ALL THAT APPLY)

Physical

General	☒	heat	☒	cold	☒	noise
	☒	explosion	☒	fire	☒	weather
	☒	fatigue	☒	violence	☒	illness/injury
Radiation	☒	ionizing	☒	microwave	☐	light
Vehicles	☒	traffic	☒	heavy equip	☒	forklift
	☒	helicopter	☒	small aircraft	☒	boat
Boat Ops	☐	sediment sampling	☐	rapid water	☒	open water
	☐	diving	☐	electrofish		
Industrial	☒	comp gas	☒	electricity	☒	confined space
	☒	equip	☒	moving parts		
Overhead	☒	obstruction	☒	falling objects		
Elevation	☒	roof	☒	scaffold	☒	ladder
	☒	stairs	☒	catwalk		
Slips/trips	☒	terrain	☒	debris	☒	slippery
	☒	trench	☒	pits/holes		
Other physical hazards:			☒	High altitudes, physical exertion, driving		

Biological

Agriculture	☐	CAFO	☐	fish	☒	farm animals
Animals	☒	dogs	☒	feral animals	☒	snakes
Insects	☒	spiders	☒	mosquitoes	☒	wasp/hornet
	☒	bees				
Pathogens	☒	bloodborne	☐	sewage	☒	med/lab
Other Biological:	☒	poisonous plants, domestic animals, scorpions, chemistry laboratories with abandoned chemicals				

Chemical

Containers	☒	ammonia	☒	chlorine	☒	other
VOCs	☒	solvents	☒	fuel	☒	oils
Wastes	☒	sewer	☒	landfill	☒	smoke/dust/fume
	☒	metals	☒	PCBs	☒	paints/surfacing
Particulates	☒	fibers	☒	diesel	☒	asbestos
Sampling	☒	acids	☒	bases		
Other Chemicals:	☒	Industrial chemicals, mercury, pesticides, chemical warfare agents, biological agents				

REQUIRED PERSONAL PROTECTIVE EQUIPMENT (PPE) (CHECK ALL THAT APPLY)

Feet:	☐	safety boots	☒	steel-toe boots	☐	shank
	☒	rubber booties	☐	waders	☐	other:
Gloves:	☐	leather	☐	cotton	☐	cut-resistant
	☒	chemical resist	☒	disposable		
Body:	☒	safety vest	☒	pfd	☐	harness
	☒	tyvek	☒	saranex	☐	coveralls
Eyes:	☒	safety glasses	☐	sunglasses	☐	goggles
Head:	☒	hard hat	☒	hearing protection	☒	respirator

OTHER REQUIRED SAFETY EQUIPMENT/TRAINING

☒	dosimetry	☒	communication	☐	decon
☒	first aid kit	☐	fire extinguish	☐	flares
☐	chains/studs	☐	eye wash/shower		

☐	24 hr HAZWOPER	☒	40 hr HAZWOPER	☒	HAZWOPER Annual Refresher
☒	TLD Program	☒	RPP Program	☒	Medical Surveillance
☒	1st Aid/CPR	☒	Other: 1) Defensive Driving; 2) Radiation Safety Training; 3) Watercraft Safety Training; 4) Bloodborne pathogens awareness; 5) Confined Space		

COMMENTS:

Potential chemical exposures are numerous and include, but are not limited to, VOCs, SVOCs, pesticides, herbicides, solvents, fuel, radionuclides, asbestos, mercury, chemical warfare agents, and biological agents. Personnel may also encounter abandoned chemistry laboratories, in which chemicals may still reside. Although personnel are not conducting the remedial actions themselves, they are in close proximity to contractors conducting the work and have the potential to encounter the hazardous constituents. Depending upon the situation, personnel may require use of respiratory protection to reduce exposures to airborne contaminants. Personnel are potentially exposed to hazardous noise; however, exact sound levels are not known at this time. Further analysis is required. Sources of hazardous noise include industrial equipment, heavy equipment, etc. Personnel are required to wear ear plugs and/or muffs while working around hazardous noise sources. Employees engage in field activities during all types of weather conditions, to include extreme heat and cold. Thermal stress is a viable hazard; therefore personnel must ensure adequate hydration and appropriate field gear is worn while engaging in field activities. In addition, field acitivies are conducted on various terrain and in remote locations where pits, holes, and trenches are encountered. Personnel need to be cognizant of their surroundings, utilize steal-toed boots, and take evasive actions to avoid contact with such hazards. Potential fire and or/ explosions hazards are possible. Personnel are usually accompanied by either a State Representative, site owner or responsible party who are knowledgeable about site conditions. Personnel may climb structures, greater than 4 feet above ground surface, to observe potential deficiencies. Personnel climb stairways with approriate handrails and walkways. Personnel must inspect stairways/walkways to ensure structural integrity and/or question site personnel regarding structural stability prior to climbing. Personnel may climb step ladders or extension ladders to inspect equipment or condust sampling. Employees must pay attention to proper ladder selection and electrical shock precautions. Personnel may encounter ionizing radiation, above background levels, while at various facilities). EPA employees are enrolled in the Regional TLD program and assigned a radiation badge for use during these types of facility inspections. Radiation Safety Training is required. Although rare, employees may be exposed to a variety of electrical components. REFERENCE PPE HAZARD ASSESSMENT FORM FOR SPECIFIC EXPLANATION OF HAZARDS ASSOCIATED WITH THIS JOB HAZARD ANALYSIS.

CERTIFICATION OF HAZARD ASSESSMENT

SUPERVISOR:	DATE:	SAFETY/HEALTH REPRESENTATIVE:	DATE:
J Chris Petersen	6/1/15	Kindee Cf	3-2-15

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PPE Hazard Assessment Form

HEALTH AND SAFETY HAZARDS		
Chemical Hazards		**Description/Mitigation**
X	Vapors/gases	Personnel may be potentially exposed to a wide variety of chemicals during response activities.
X	Dusts/mists/fumes	Personnel may be potentially exposed to a wide variety of chemicals during response activities.
X	Liquid splash	Personnel may be potentially exposed to a wide variety of chemicals during response activities.
Comments:		Potential chemical exposures are numerous and include, but are not limited to, VOCs, SVOCs, pesticides, herbicides, solvents, fuel, radionuclides, asbestos, mercury, chemical warfare agents, and biological agents. Personnel may also encounter abandoned chemistry laboratories, in which chemicals may still reside. Although personnel are not conducting the remedial actions themselves, they are in close proximity to contractors conducting the work and have the potential to encounter the hazardous constituents. Depending upon the situation, personnel may require use of respiratory protection to reduce exposures to airborne contaminants.
Physical Hazards		**Description/Mitigation**
X	Ergonomics	Personnel may experience repetitive motions, frequent or heavy lifting, pushing, pulling, or carrying of heavy objects; and prolonged awkward postures. Vibration and cold may add risk to these work conditions. The level of risk depends on the intensity, frequency, and duration of the exposure to these conditions. Careful lifting techniques along with secure grips and packing at desk level or higher will reduce potential exposures.
X	Heat —high temperatures	Employees engage in field activities during all types of weather conditions, to include extreme heats. Heat stress is a viable hazard; therefore personnel must ensure adequate hydration and appropriate field gear (light weight, loose fitting and light-colored clothing) is worn while engaging in emergency response activites. Personnel must be knowledgeable on the signs and symptoms of heat stress, heat stroke, and heat exhaustion and understand corrective measures to take.
X	Cold —cold temperatures	Employees engage in field activities during all types of weather conditions, to include cold weather. Although field activities are performed in termperate climates, cold weather may be a potential hazard. Personnel must ensure adequate hydration and appropriate field gear (layers, protecting the extremities especially fingers, toes, nose, and ears) is worn while engaging in response activites. Personnel must be knowledgeable on the signs and symptoms of frost bite and hypothermia and understand corrective measures to take.
X	Electricity	Employees may be exposed to electrical shock during response activities, depending upon the structural integrity of the overall power grid while commuting and the facility's internal electrical system. Always assume power lines are live and never touch or drive over them. Maintain a safe distance from all electrical components. If exposed lines are present, do not touch any metal objects/equipment nor stand in nearby pools/puddles of water.
X	Radiation — ionizing, non-ionizing	Personnel may encounter ionizing & non-ionizing radiation, above background levels, while at sites. Personnel conduct radiation assessments prior to site entry. EPA employees are enrolled in the Regional TLD program and assigned a radiation badge for use during site visits which may have sources of ionizing radiation. Annaul Radiation Safety Training is required.
X	Noise	Personnel are occasionally exposed to various sources of hazardous noise, to include industrial equipment. However, the equipment is usually abandoned and inoperable. In addition, personnel may work around/near heavy equipment (e.g. debris removal trucks, backhoes, dump trucks, etc.) Personnel must wear ear plugs and/or muffs while around hazardous noise sources. Noise levels have not been documented. Further analysis is required.
X	Fire/Explosion	Due to the nature of emergency responses, potential fire and or/ explosions hazards are probable due to broken gas lines and damaged electrical lines or appliances. Personnel may be exposed to existing fires or new fires created by aftershocks. Incompatible chemicals (flammable, corrosive, ignitable) may interact due to a variety of circumstances, creating an explosion hazard. If personnel observe any spills/leaks/releases, they should exit the area immediately. Personnel should also follow the emergency response procedures given during the situational awareness/safety briefing.
X	Slips/Trips/Falls	Slips/trips/falls are always probable conducting field visits, outside where pits, holes, and various terrains are encountered. Personnel need to be cognizant of their surroundings, wear steel-toed safety boots, and take evasive actions to avoid contact with such hazards.
X	Elevation - Falls	Personnel may climb units, greater than 4 feet above ground surface, to observe potential deficiencies. Personnel climb stairways with approriate handrails and/or ladders affixed to various units. Personnel must inspect stairways/walkways to ensure structural integrity and/or question site personnel regarding structural stability prior to climbing. Personnel may climb step ladders or extension ladders to inspect equipment. Personnel must pay close attention to the Duty Rating of the ladder and the combined weight of the user and materials. Select a ladder with the proper capacity. Also, be sure to select a ladder of proper height to reach the work area without overextending. Be aware of wires, electrical devices and live electrical circuits. Metal ladders conduct electricity and can create a danger of electrocution. Failure to read and follow instructions regarding electrical safety could result in serious personal injury or death.

Physical Hazards Cont.		Description/Mitigation
X	Confined spaces	Although employees **do not** enter confined spaces, they may still encounter confined spaces and need applicable awareness training. Such confined spaces are found in industries such as ships, paperboard mills, telecommunications, sewer, petroleum refineries,nd chemical storage and/or distribution. Personnel are restricted from permit required confined spaces. **If you are not sure, do not enter.**
X	Driving	Vehicular accidents and traffic are potential hazards encountered while driving to and from sites. Defensive driving training is required (every 3yrs). Personnel must be attentive to the absence of stop lights, debris in roadway, downed or low-hanging electrical/power lines, other vehicles, etc. Do not use hand-held devices or text while driving. Personnel must keep updated maps and routes, and keep cell phone charged and readily accessible for emergency communications or situational updates.
X	Other	Fatigue is also a concern due to potentially long working hours (12-16 hours/day). Personnel must limit work shifts to a maximum of 16 hours including travel time to and from base station. Ensure adequate sleep of at least 7-8 hrs and take frequent breaks. Personnel should check weather forecasts prior to deployment and prepare for conditions prior to leaving for the site.
Biological Hazards		**Description/Mitigation**
X	Animals	Employees may encounter a variety of animals and insects while in the field. These include dogs, feral animals, snakes, mosquitos, spiders, bees, wasps, etc. Personnel must pay special attention to displaced household pets, as they can be especially dangerous. Personnel are not to engage no matter how friendly they seem. Personnel should wear appropriate field gear depending upon the location (e.g. long sleeves, long pants, snake chaps, insect repellent, etc). Personnel need to be cognizant of their surroundings and take evasive actions to avoid contact with animals/insects.
X	Other	Personnel have the potential to encounter unknown water and/or raw sewage, in which various pathogens are present. Personnel utilize latex gloves and administrative controls, such as non-entry procedures, to reduce potential exposures to biological hazards. Personnel are required to practice good hygiene, such as proper hand washing and/or antimicrobial wipes/liquid, to reduce biological exposures. Employees are often in remote locations, in which poison ivy and other infectious plants are present. Personnel must be trained to ensure they are aware of the surroundings and avoid plants to prevent injury/iillness. Cut-resistant gloves should also be utilized to reduce potential exposures.

Completed by: Kendra Gomez & Rita Engblom **Date: March 15, 2012**
Updated by: Kendra Gomez **Date: November 4, 2014**
SHEMP Review Kendra Gomez **Date:** March 2, 2015

Required Personal Protective Equipment			
Where engineering and administrative controls are not feasible or sufficient for controlling hazards, PPE must be used to protect workers. The following PPE is required for the noted tasks above:			
Eye and Face Protection			
X	Safety glasses with side shields		Reflective goggles/face shield
	Chemical splash goggles		Cutting/brazing/welding eye protection
	Face shield		Other:
Head Protection			
X	Hard hat		Helmet, cowl, hood
	Welding helmet/mask		Other:
Foot Protection			
X	Steel-toed safety shoes/boots		Other:
X	Chemical-resistant booties		
Body Protection			
	Apron (splash, work)		Head-reflective garments
	Lab coat		Sleeves (cut-resistant)
X	Coveralls (work, chemical-resistant) Type chemical: Varies Type coverall: Totally encapsulating chemical-protective (TCEP) suit; tyvek; saranex	X	Other: Appropriate field gear for the weather (thermal/cold stress); Reflective safety vest; USCG Personal Flotation Device (Type I, II, or III);
Respiratory Protection			
X	Respirator	X	Type of respirator: Full Face Air Purifying Respirator with appropriate cartridges for the contaminant of concern; Self-contained breathing apparatus (SCBA); Powered Air Purifying Respirators (PAPRs)
Hand Protection			
	Rubber insulating gloves		Rubber insulating sleeves
	Rubber insulating hoods	X	Other: **Chemical Resistant Gloves (type dependent upon chemical of concern)
Other: Ear plugs and/or muffs Sunscreen *(personal issue item)* Insect repellent *personal issue item)* **Chemical resistant gloves must be selected based upon adequate breakthrough times for specific chemicals of concern. Please contact the R6 Health & Safety Office for assistance in glove selection.			

HEALTH & SAFETY TRAINING REQUIREMENTS

EPA employees must **maintain HAZWOPER certification** and are required to have the following:

Course Name	Training Location	Training Frequency
40 hr HAZWOPER Training	In-Class	Initial – One time
8hr HAZWOPER Refresher	In-Class	Annual
24hr EPA H&S Training for Field Activities (OTH 952) modules: • Watercraft Safety Training • Confined Space Entry	Skillport Website (EPA E-Learning)	Initial
Radiation Safety Training	Skillport Website (EPA E-Learning) or H&S Office	Annual
Defensive Driving	GSA Website	Every 3yrs
First Aid/CPR	In-Class	Every 2yrs
Respirator Fit Test & Training	H&S Office	Annual
Bloodborne Pathogen Awareness	OSC Meeting	Annual

OCCUPATIONAL MEDICAL SURVEILLANCE PROGRAM (OMSP)

Employees enrolled in the OMSP will receive their periodic exam under Work Order 020, "Emergency Response Coordinator & OSC".

ON-SCENE COORDINATORS

I HAVE READ OR BEEN BRIEFED ON THE HAZARDS AND PROTECTIVE MEASURES IDENTIFIED FOR THE ABOVE-LISTED TASKS AND FULLY UNDERSTAND THE JOB-SPECIFIC REQUIREMENTS THAT HAVE BEEN ESTABLISHED.			
DATE	EMPLOYEE NAME	EMPLOYEE SIGNATURE	EMPLOYER NAME
3/2/2015	Stephen Mason		USEPA R6
3/2/2015	[illegible]		"
3/2/2015	Brandi Todd		"
3/2/2015	NICOLAS BRESCIA		USEPA R-6
3/2/2015	Roberto Bernier		"
3/2/15	Adam Adams		"
3-2-15	Mike McAteer		"
3-2-15	Jon Rinehart		USEPA- R-6
3/2/15	Althea C. Tosh		"
3/2/15	J. Chris Petersen		"
3/2/2015	Bryant Smalley		"
3/2/15	Donald P Smith		"
3/2/15	John Martin		R6
3/2/15	Eric Delgado		R6
3/2/15	MAGIC HAYES		R6
3/2/15	Karen Enders		US EPA R6
3/20/15	Paige Delgado		US EPA R6
3/30/15	GARY MOORE		US EPA R6
04/06/15	Warren Zehner		US EPA R6
4/6/15	Monica Smith		US EPA-R6
4/6/15	SWebster		"
5/6/15	Greg Fife		"